Office Action Summary	Application No.	Applicant(s)	
	09/623,780	FUKUZAWA ET AL.	
	Examiner	Art Unit	
	USHA RAMAN	2424	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 November 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *7,9-12 and 14-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7,9-12 and 14-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *12-3-09* .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed November 24, 2009 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 7 and 12 have been considered but are moot in view of the new ground(s) of rejection.

Specification

3. The disclosure is objected to because of the following informalities:

In page 12, line 5, change “the resent” to --the present--.

In page 14, line 12, change “READ” to --REED--.

In page 15, line 7, change "turning operation" to --tuning operation--.

In page 22, line 6, change “NID detection” to --NIT detection--.

In page 26, line 11, change "(step S15)” to --step S16--.

In page 29, line 20, it appears that, “service type are deleted” should read as “service type are *not* deleted”. Applicant is requested to revise and make appropriate corrections.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 7, 9-12, 14-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation “wherein the NIT tables of the transport streams are alternately stored in the first memory section and the second memory section” and further recites “wherein the switching circuit alternately outputs the NIT table stored the first memory section and the second memory section every transport packet by switching between the first terminal and the second terminal". There is ambiguity as to which NIT tables are alternately stored in the first and second memory section and which NIT tables are outputted based on the switching circuit because the claim only mentions NIT of the second transmission path (i.e. satellite network), however applicant’s disclosure only provides support for the NIT of the first transmission path (i.e. cable network) being alternately (i.e. alternately storing NITa and NITo of first transmission path) stored in the first and second memory sections and alternately outputting the NIT (i.e. alternately outputting NITa and NITo of first transmission path) of the first transmission path from the memory means based on switching circuit. See Specification, page 23, lines 18-20, and page 24, lines 6-10.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 7, 9-12 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over LaJoie (US PG Pub. 2005/0015804) in view of ETS 300 468 "Specification for service information (SI) in Digital Video Broadcasting (DVB) Systems" Second Edition published in January 1997.

With regards to claims 7 and 12, LaJoie discloses a method of transmitting digital services received from one delivery network (satellite transmission), demodulating the received satellite signals, editing the signal to remove streams that are not going to be re-broadcast, modulating the signals according to the cable delivery network modulation scheme and transmitting over the cable network. See [0071].

While LaJoie teaches the step of not retransmitting certain services or "unwanted" programs, LaJoie is silent on the steps of replacing network information means prior to transmitting the data to a cable delivery network and deleting the service identifiers of network information that are not retransmitted and adding placeholder data for the deleted service identifiers, the service list descriptors for services repeated in the new transmission in the cable delivery network in accordance with the TS description length.

ETS 300 468 standard (henceforth referred to as "DVB specification" as set forth by the ETSI, further incorporating the contents (see page 4) of ETR 211, "DVB guidelines for Implementation and usage of Service Information" (henceforth referred to as "DVB guidelines"), set forth transition guidelines at delivery media boundaries. The guideline discloses replacement NIT packets and therefore shows the step of network information replacement with the information for the cable transmission path. See DVB guidelines: clauses 4.1.1 and 5.3. Furthermore, the DVB specification discloses that the NIT comprises a delivery_system_descriptor for each of the delivery systems, namely a cable_delivery_system_descriptor and a satellite_delivery_system_descriptor for the cable and satellite systems respectively. See clauses 6.2.6 in DVB Specification,. The cable/satellite delivery system descriptors are transmitted in the second descriptor loop of the NIT (see DVB guidelines, 4.2.1.2.1). The NIT also specifies transport_descriptors_length field, wherein the field specifies the, 'total length in bytes of Transport Stream descriptors that follow' (see DVB specification, pages 16-17). Therefore, the delivery system descriptors are set in accordance with the transport stream descriptor length set forth in the transport_descriptors_length field. Furthermore, it is also noted that the NIT is a table indicating physical information of a transmission path, wherein the NIT is contained in the broadcasting signal (see page 16, DVB specification), and distinguished by a unique PID (as specified by table 1 of DVB specification).

The DVB specification further discloses wherein the table is segmented into a plurality of sections with a same format (see page 16, "The NIT shall be segmented

into network_information_sections using syntax of Table 3"), each section having a section indicator (section_number) and a last section indicator (last_section_indicator), see page 17.

The DVB specification further discloses the step of transmitting stuffing_descriptor (i.e. placeholder data) for invalidating previously coded descriptors and therefore teaches the step of replacing service identifiers using placeholder (and therefore deleting service identifiers) when the services are no longer valid (i.e. services that are not re-transmitted). See DVB specification, clause 6.2.25. The stuffing_byte is situated in a *for_loop*, clearly indicating a *repetition* of the stuffing_byte field N times, wherein "*each occurrence* of the [stuffing byte] maybe set to any value". See DVB specification, 6.2.25. Furthermore, the descriptor_length field preceding the aforementioned for_loop indicates "the total number of bytes of the data portion of the descriptor following" (see DVB specification, page 27), further supporting that length of the stuffing descriptor can vary according to the size of the descriptors that need to be invalidated. Therefore the DVB documents teach the limitations of adding placeholder data having the same length of the deleted service identifiers.

The DVB guidelines further discloses that transmitting a service list descriptor corresponding to a transport stream identifiers, wherein the service list descriptor contains a list of services transmitted (including repeated services) in a new delivery system (see DVB Guidelines, fig. 2, 4.2.1.2.2 and DVB specification, table 51), wherein the service list descriptor is transmitted in accordance with the length of a

transport stream. The DVB guidelines accordingly teaches that the service list descriptors to be re-transmitted are appended to the transport stream identifier in accordance with length of the transport stream descriptor.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the teachings set forth by the DVB specification for transition between delivery system boundaries in the system of LaJoie so that the receiver at the new delivery information can correctly identify and decode services.

As noted above, the DVB specification and Implementation Guidelines both disclose the step of selectively replacing portions of the NIT at network boundaries with information pertinent to for re-broadcasting to the new network. This includes replacement of the delivery descriptors as well as modifying the service identifiers and service list descriptors for the new network. Such selective replacement necessitates that data to be replaced be held in buffer so that it can be parsed to identify portions that need to be replaced and also necessitates buffering of the replacement data so that the identified parsed data can be selectively replaced. Accordingly the modified system necessarily comprises a memory means to perform the selective replacement. The DVB guidelines further notes that while NIT for the actual transport streams is mandatory, NIT for other transport streams may also be transmitted (i.e. satellites belonging to different networks). Therefore in the event NIT for the other transport stream are transmitted in addition to the NIT for the actual transport stream from the old (second) delivery system, similar parsing and replacement steps would be required for selectively replacing portions of NIT

corresponding to the other transport stream for delivery of pertinent services in the new delivery system, thereby necessitating buffering of NIT of other transport streams. Accordingly it would have been further obvious to buffer the NIT of other transport stream in the memory means in order to perform selective replacement of packets so that they carry delivery system information and service information pertaining to the new delivery system, wherein the NIT for the actual transport stream would be buffered as a separate table than the NIT for the other transport stream, and therefore be stored in different locations in the memory means.

While the selective parsing and replacement of data necessitates a memory means, the DVB specification and LaJoie are silent on the memory means having a first memory section and a second memory section being coupled with a first terminal and a second terminal of a switching means respectively, wherein the first and second memory section are utilized for the first transmission path wherein the switching circuit alternately outputs the NIT table stored in the first memory section and second memory section every transport packet by switching between the first terminal and the second terminal.

In a further related art, Sumi discloses a memory device comprising a first memory section (20a) and a second memory section (20b) being coupled with a first terminal and a second terminal of a switching circuit (35) wherein the switching circuit outputs the data stored in the one memory section while storing data in the other memory section and alternates the operation to output data from the other memory while storing data in the first memory section. See fig. 4 and col. 5 lines 28-

30, 36-40, 43-55 and col. 6 lines 5-9. This is also commonly known in the art as "ping-pong" buffering wherein read and write operations are alternated between two buffers thereby outputting blocks without any gaps or delays.

Accordingly it would have been obvious to one of ordinary skill in the art to further modify the system in view of a memory device as taught by Sumi so that a "ping-pong" type buffer can be implemented for minimizing any gaps or delays in outputting the replacement data, thereby minimizing the overall processing delay.

In regards to claims 9 and 14, LaJoie discloses that a satellite decoder demodulates the QPSK signals modulated from the second network transmission path and data packets. Note LaJoie [0071]. Upon receiving and decoding a transport stream, the NIT is extracted at the receiving site in order compare the network id of a transport stream to identify the delivery network. If it is found that the network id of the received transport stream does not match with the network id of the receiver, the network id must be replaced for subsequent delivery over a second network. The extracted packets are then packetized (converted) into a compliant system standard for subsequent delivery in the second network. Furthermore, the DVB guidelines discloses that the extracted network identification information is replaced with that of the new network. Note clause 5.3.2 in page 37 of the DVB guidelines.

In regards to claims 10 and 15, as discussed above for claims 7 and 12, the modified system comprises a cable television network as the first transmission path

and a satellite broadcasting network as the second transmission path. See LaJoie [0071].

In regards to claims 11 and 16, the DVB guidelines discloses that a can digital receive transport streams from an arbitrary network, extract the network information to determine the delivery network id and convert it to a format compliant with the network to be delivered to, replace the network id with the information of the network to be delivered to. In the case of the modified system, the arbitrary network is any satellite network and the network to be delivered to is the cable network. The DVB guidelines further discloses that a transport stream from an arbitrary network has to have a NIT (designated by the tables listed under DVB mandatory in figure 1) identifying the actual transport stream, however it may also have NIT concerning with another transport stream (designated by tables under DVB for optional transport streams) of another network (i.e. another satellite, cable or terrestrial network). Note clause 1 in page 7 and figure 1 of DVB guidelines in page 10. When two such networks are identified in the new network, the new network replaces the network information of both the networks with the network information of the new network in the same manner as above. Note the last paragraph in page 11 of the DVB guidelines.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to USHA RAMAN whose telephone number is (571)272-7380. The examiner can normally be reached on Mon-Fri: 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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